Plant Materials

photos: NRCS Oklahoma

Bioengineering techniques being applied to stabilize an eroding portion of streambank along Pole Cat Creek, near Bristow, Oklahoma.

Vegetation becoming established along the stabilized portion of Pole Cat Creek.

Plant Materials Program

Responsibility for plant science activities of the USDA Natural Resources Conservation Service (NRCS) is a primary function of the Plant Materials (PM) Program. There is a national network of 26 plant material centers dedicated to providing vegetative solutions to conservation problems. Oklahoma is served by three plant material centers. The north and central are served by the Manhattan, Kansas Plant Center; the east and south by the Booneville, Arkansas Plant Center; and the south and west by the Knox City, Texas Plant Center.

The primary products produced by the Plant Materials Program include the development of improved varieties of plants and plant science technology. The principal customers of the program include:

- Natural Resources Conservation Service area and field offices, who in turn serve both rural and urban landowners and managers
- Public agencies, universities, and private conservation related affiliations that utilize the technology developed by the program
- Commercial seed and plant growers who receive seeds and plants of selected superior species, which in turn assists the public in receiving the latest technologies in plant and seed production.

Plant Development

Through a series of evaluations, plants are selected that show the greatest potential for addressing conservation needs. Once a superior plant is selected, the material is made available to commercial growers. Commercial growers then produce the material on a much larger scale and make it available to the public for use in meeting their various conservation needs.

During 2000

☑The Plant Materials Centers (PMC) developed and released two superior native legumes for use in rangeland seeding, wildlife habitat improvement, critical area treatment, and recreation and beautification seeding.

☑The PMC provided to commercial growers in five states and Canada, 2,020 pounds of foundation class seed of various grasses, forbs, and woody species for the purpose of seed increase.

☑The PMC provided over 200 pounds of seed and 8,000 rhizomes or woody cuttings of various species to local conservation district offices, Natural Resources Conservation Service field offices, other local, state, and federal agencies, and universities for the purpose of demonstration plantings and research.

☑Commercial growers produced 193 tons of seed and 23,000 woody seedlings from material previously

photo: USDA

provided to them by the PMC. The value of this commercially produced material totaled more than $4.2 million dollars.

Plant Technology

The Natural Resources Conservation Service is a technical agency given the responsibility of administering technically based programs. Many of these programs such as Conservation Reserve Program (CRP), Wetlands Reserve Program (WRP), and Wildlife Habitat Incentives Program (WHIP) directly involve the use of plant materials and plant technology. The primary responsibility for developing the plant materials and technology is the Plant Materials Program. Much of the technology developed by the program is incorporated into the *Field Office Technical Guide*, assisting our employees in providing the best technical applications of conservation to the land.

New Emerging Resource Needs Addressed Through the Plant Materials Center During 2000 Includes:

- ☞Cooperative work carried out in conjunction with the Muscogee (Creek) Nation for the collection and propagation of culturally significant plants
- ☞Plant species and establishment techniques evaluated for use in bioengineering application
- ☞Plant species evaluated for use as potential biofuels
- ☞The preservation of federally listed threatened plant species
- ☞Evaluation of seedbed preparation and seeding techniques for enhancement of CRP with introduced and native forbs and legumes
- ☞Addressing the demand for adaptive, native legumes for use in various types of conservation plantings by releasing two superior selected legume species
- ☞Woody plant species evaluated for use in windbreak and wildlife plantings in western Oklahoma

Plant Materials Web Site

The Plant Materials Program also maintains a web site, http://Plant-Materials.nrcs.usda.gov, which contains useful plant information such as:

- ❖Plant fact sheets on over 130 different species
- ❖Listing of commercial plant vendors who provide plants for use in conservation applications including wetland species
- ❖Listing of current plant related technical articles developed by the Plant Materials Center
- ❖Links to other web sites with additional or supporting plant information

Native American Outreach

Oklahoma Natural Resources Conservation Service staff and the Plant Materials Center teamed up to work with the Muscogee (Creek) Nation in Okmulgee, Oklahoma. The Nation provided a list of plant materials they were interested in maintaining. Natural Resources Conservation Service then worked to collect and propagate these culturally significant plants. Once the plants are propagated, the Muscogee (Creek) Nation starts these in green houses to plant for the future uses of the Nation, maintaining a unique historical and cultural environment. Some of the plants that have been propagated include Dwarf Switchcane, used for basket weaving, Carolina Willow, and a species of holly.

Bioengineering Applications for Stream Bank Erosion

Natural Resources Conservation Service employees in the Bristow Field Service Center in Bristow, Oklahoma, worked with landowners to utilize bioengineering applications to eliminate stream bank erosion. Bioengineering is a technical process of using living materials to develop and design stabilization structures. In this situation, appropriate plant species were selected to fill in barren soils banks, eliminating water runoff concerns, thus stopping erosion and improving water quality.

Woody plant species being evaluated for adaptation and performance for use in windbreak and wildlife plantings in western Oklahoma.

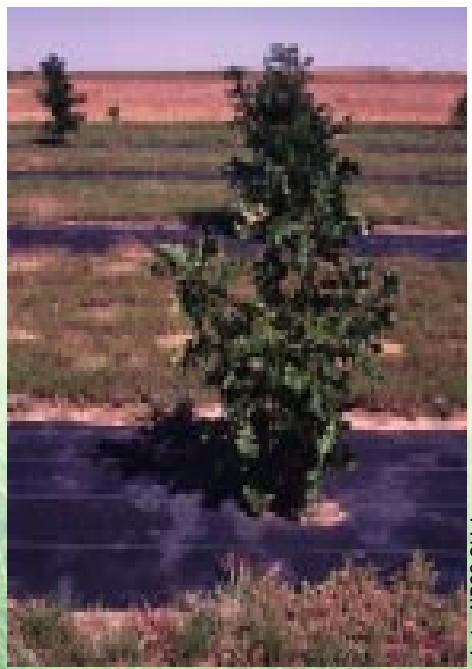

photo: NRCS Oklahoma

photo: USDA